

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1           **Claim 1 (original):** A method of manufacturing a  
2           semiconductor device for obtaining the semiconductor  
3           device divided into individual pieces of semiconductor  
4           elements by cutting a semiconductor wafer, the primary  
5           component of which is silicon, on the first face of which  
6           the plurality of semiconductor elements are formed, by  
7           means of plasma dicing, the method of manufacturing the  
8           semiconductor device comprising:

9           a step of forming an etching stop layer on the first  
10          face side at positions corresponding to cutting lines which  
11          are set by dividing the semiconductor wafer into the  
12          individual pieces, the etching stop layer containing  
13          material, the etching rate of the material by plasma, in  
14          which a first plasma generating gas of mixed gas containing  
15          fluorine gas is used, being lower than an etching rate of  
16          etching silicon by plasma in which the first plasma  
17          generating gas is used;

18          a step of attaching a protective sheet, which is  
19          capable of being peeled off, onto the first face to form a

20 mask for determining the cutting lines on a second face  
21 opposite to the first face;  
22 a first plasma dicing step of etching silicon from the  
23 second face side by plasma of the first plasma generating  
24 gas; and  
25 a second plasma dicing step of etching the etching  
26 stop layer, which is exposed in the first plasma dicing  
27 step, by a second plasma generating gas capable of etching  
28 at a higher etching rate than the etching rate of the first  
29 plasma generating gas.

1 **Claim 2 (original):** A method of manufacturing a  
2 semiconductor device according to claim 1, wherein a ratio  
3 of the etching rate of etching silicon by plasma, in which  
4 the first plasma generating gas is used, to the etching  
5 rate of etching the etching stop layer by plasma, in which  
6 the first plasma generating gas is used, is not more than  
7 0.6.

1 **Claim 3 (original):** A method of manufacturing a  
2 semiconductor device according to claim 1, wherein the  
3 etching stop layer contains at least SiO<sub>2</sub>, and the second  
4 plasma generating gas contains fluorine gas having hydrogen  
5 bonding or alternatively contains mixed gas containing

6       fluorine gas.

1           **Claim 4 (original):** A method of manufacturing a  
2       semiconductor device according to claim 3, wherein the  
3       second plasma generating gas contains mixed gas containing  
4       CHF<sub>3</sub> or CF<sub>4</sub>+H<sub>2</sub>.

1           **Claim 5 (original):** A method of manufacturing a  
2       semiconductor device according to claim 1, wherein the  
3       etching stop layer contains at least SiN, and the second  
4       plasma generating gas is mixed gas containing at least  
5       fluorine gas and oxygen.

1           **Claim 6 (original):** A method of manufacturing a  
2       semiconductor device according to claim 5, wherein the  
3       second plasma generating gas contains mixed gas containing  
4       SF<sub>6</sub> and O<sub>2</sub>.

1           **Claim 7 (original):** A method of manufacturing a  
2       semiconductor device according to claim 1, wherein the  
3       etching layer contains at least organic matter, and the  
4       second plasma generating gas contains at least oxygen.

1           **Claim 8 (original):** A method of manufacturing a

2 semiconductor device according to claim 1, wherein the  
3 etching stop layer contains at least an electric conductor  
4 used for the wiring of semiconductor elements.

1 **Claim 9 (original):** A method of manufacturing a  
2 semiconductor device according to claim 8, wherein the  
3 electric conductor contains at least one of Al, Al-Si and  
4 Al-Si-Cu, and the second plasma generating gas contains at  
5 least chlorine or chlorine compound gas.

1 **Claim 10 (currently amended):** A cutting device of  
2 cutting a semiconductor wafer used for the method of  
3 manufacturing a semiconductor device, comprising:

4 a processing chamber of forming a tightly closed  
5 space;

6 an electrode having a plane tightly coming into  
7 contact with ~~the~~ a protective sheet;

8 a holding means for holding the semiconductor wafer by  
9 the electrode under the condition that the protective sheet  
10 is tightly contacted with the plane;

11 a pumping means for decompressing the processing  
12 chamber;

13 a plasma generating gas supply section of supplying  
14 plasma generating gas into the processing chamber; and

15           a high frequency electric power supply section of  
16   impressing a high frequency voltage upon the electrode so  
17   as to transfer plasma processing gas, which is supplied  
18   into the processing chamber, into a state of plasma,  
19           wherein the plasma generating gas supply section  
20   includes a gas selecting means for selectively supplying  
21   the first plasma generating gas used in the first plasma  
22   dicing step or the second plasma generating gas for  
23   generating plasma capable of etching the etching stop  
24   layer, which is exposed by the first plasma dicing step, at  
25   a higher etching rate than the etching rate of plasma of  
26   the first plasma generating gas.